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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/24/2003

Virgil Cotoco Ararao

27-006

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08/03/2006

THE LAW OFFICES OF MIKIO ISHIMARU
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EXAMINER

NGUYEN, THANH T

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/721,916	Applicant(s) ARARAO ET AL.	
	Examiner Thanh T. Nguyen	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/19/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) ☐ Claim(s) is/are allowed.
- 6) ☒ Claim(s) 1-10 and 21-30 is/are rejected.
- 7) ☐ Claim(s) is/are objected to.
- 8) ☐ Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. .
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u> </u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u> </u> | 6) <input type="checkbox"/> Other: <u> </u> |

DETAILED ACTION

Request for Continued Examination

The request filed on 5/9/06 for a Request for Continued Examination (RCE) under 37 CFR 1.114 is acceptable and an RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 21-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hawthorne et al. (U.S. Patent No. 6,008,991).

Referring to figures 3-4, 9-11, Hawthorne et al. teaches a method for fabricating a semiconductor heat spreader, comprising:

providing a unitary metallic plate (see figures 9-10); and

forming the unitary metallic plate into:

a panel(68/114);

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channel walls depending from the panel (68/114) to define a channel (44/110) between the channel walls and the panel for receiving a semiconductor therein (see figures 3-4, 9-10); at least two feet (70, see figures 3-4, 9-10) extending from respective channel walls for attachment to a substrate (138); and at least one external reversing bend (72a/72b/116/118/146/148, see figures 4, 9-10); a cross-sectional profile of the plate that is substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate (see figures 3-4, 9-10).

Regarding to claims 2, 9, 22, 29. the feet are selected from an arched foot, a stand-off foot, a slotted stand-off foot, a toed foot, a stand-off toed foot, a flat foot, a slotted flat foot, a zigzag foot, a box foot, and a combination thereof (70, see figures 3-4, 9-10).

Regarding to claims 3, 9, 23, 29. forming the feet to accommodate respective set volumes of adhesive therebeneath for attaching the semiconductor heat spreader to a substrate (63/112, called conductive lead lamination).

Regarding to claims 4, 24. forming an electromagnetic interference shield for the channel (114, so that the magnetic field won't able to go through the metal shield).

Regarding to claims 5, 10, 25, 30. providing an additional unitary metallic plate (128/150); and forming the additional unitary metallic plate into a unitary auxiliary heat spreader configured for attachment on top of the semiconductor heat spreader (see figures 9-10).

Regarding to claims 6, 10, 26, 30. forming attachment means for attaching the unitary auxiliary heat spreader to the semiconductor heat spreader, the attachment means being selected from tabs, locking tabs, deformable sides, side ledges, side clips, clip bosses, center clips, side arms, and a combination thereof (legs, 124/126/158/160).

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Regarding to claims 7, 27-28. forming the unitary metallic plate further comprises forming the unitary metallic plate in substantially a single metal forming process to also form an integral auxiliary heat spreader located on top of the panel (see figures 4, 9, 10).

Regarding to claims 8, 9, 21, 29. forming the unitary metallic plate further comprises forming the unitary metallic plate in substantially a single metal forming process into a cross-sectional profile that is substantially constant in at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate (see figures 3-4, 9-10).

Noted that references (Tosaya et al. U.S. Patent No. 6,538,320, and Ommen et al. (U.S. Patent No. 5,397,917) also teaches all of the limitations as described in claims 1-10, 21-30.

Response to Arguments

Applicant's arguments filed 5/9/06 have been fully considered but they are not persuasive.

Applicant contends that Hawthorne cross-sectional profile is not constant. In response to applicant that the claims limitation claimed the cross-sectional profiled is **substantially constant** which means that it does not have to be constant. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., constant.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant contends that Hawthorne et al. does not teach or suggest a cross-sectional profile of the plate that is substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate. In response to applicant that Hawthorne et al. clearly teach a cross-sectional profile of the plate that is substantially constant along at least one horizontal direction that is perpendicular to the cross-sectional profile of the plate (see figures 3-4, 9-10). In figure 4 of Hawthorne et al. shows only cross sectional view of the device in x and y direction, in the meanwhile applicant compare x direction of Hawthorne device with z direction of the present invention. In figure 3 of Hawthorne et al., the device including a top view (z direction of the device) substantially constant the horizontal direction that is perpendicular to the cross sectional profile of the plate. Hence Hawthorne et al. clearly teach all the limitation of the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, can be reached on (571) 272-1702. The fax phone number for this Group is (571) 273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (See **MPEP 203.08**).

A handwritten signature in black ink, appearing to read 'Thanh', with a long horizontal stroke extending to the left.

Thanh Nguyen
Patent Examiner
Patent Examining Group 2800

TTN